CLAIMS

1. A component mounting apparatus (101) for mounting fed components (1) onto a board (3), comprising:

one head unit (10, 20, 110, 210) which has a component holding member (11) for holding one of the components and which is selected from among a plurality of types of head units according to types of the fed components;

a head moving unit (4, 14) which has a head fitting portion (4a) onto which the selected one head unit is removably loaded, for moving the head unit loaded on the head fitting portion in a direction extending generally along a surface of the board; and

a head control unit (90, 190, 290) which is provided for each of the head units, for controlling component mounting operation by a head unit corresponding to the loaded head unit.

2. The component mounting apparatus as defined in Claim 1, wherein the head control unit includes a plurality of control circuit boards (91, 92, 94, 191, 192, 291, 292, 294) having control circuits for performing control for the component mounting operation by the head unit, and

the control circuit boards are disposed so that their

surfaces become generally perpendicular to a surface of the board.

3. The component mounting apparatus as defined in Claim 1 or 2, wherein the control for the component mounting operation by the head unit includes control for holding or holding-release operation for the component by the component holding member as well as control for moving-up and -down operation of the component holding member.

4. The component mounting apparatus as defined in Claim 2, wherein ventilation-use voids for removal of heat generated from the control circuit boards during the control for the component mounting operation are provided between the control circuit boards.

5. The component mounting apparatus as defined in Claim 2, wherein each of the control circuit boards includes a driver circuit (92, 192, 292) for driving the component holding member in the head unit, and a controller (91, 191, 291) for controlling the driver circuit.

6. The component mounting apparatus as defined in Claim 2, further comprising a moving-unit control unit (48 and 49) for performing control for moving operation of the

head unit by the head moving unit, and a main control unit (45) for performing control for the moving operation of the head unit by the moving-unit control unit and control for the mounting operation of the head unit by the head control unit in association with each other, wherein

the main control unit is provided on an apparatus main body side.

7. The component mounting apparatus as defined in Claim 6, further comprising communication means (L1, L2) for performing communications of information for the control processes between the head control unit and the main control unit of the selected one head unit, wherein

the communication means is used in common to the head units of the individual types.

8. The component mounting apparatus as defined in Claim 1 or 2, wherein

a head unit which is different in type from the selected one head unit and which is among the remaining plurality of types of head units except the selected one head unit is provided on standby so as to be fittable to the head unit fitting portion, and

the head moving unit is loaded with the selected one head unit changeably with the standing-by different type

of head unit.

9. The component mounting apparatus as defined in Claim 1 or 2, wherein the plurality of types of head units include a chip component mounting head unit (110) or a semiconductor component mounting head unit (10).

10. The component mounting apparatus as claimed in Claim 1, wherein

the plurality of types of head units include a component mounting head (10, 20) for mounting the components onto the board,

the component mounting head comprising:

the component holding member for releasably holding one of the components;

an up/down drive unit (50) for moving up and down the component holding member; and

a support member (40) which is a member for up/down movably supporting the component holding member and supporting the up/down drive unit and which is releasably fixed to the head fitting portion of the head moving unit, and wherein

support centers, one of which is a support center (T) for supporting the up/down drive unit by the support member and other of which is a support center (S) for

supporting the component holding member by the support member, are positioned so that a distance (L1) in the direction extending generally along the surface of the board between a fixation center (J) of the support member for fixing the head moving unit to the head fitting portion and the support center (T) for the up/down drive unit becomes smaller than a distance (L2) in said direction between the support center (S) for the component holding member and the fixation center, and moreover at least part of the support member is positioned between the support center for the up/down drive unit and the support center for the component holding member, where the up/down drive unit and the component holding member are supported by said at least part of the support member.

11. The component mounting apparatus as defined in Claim 1, wherein

the plurality of types of head units include a component mounting head (10, 20) for mounting one of the components onto the board,

the component mounting head comprising:

the component holding member for releasably holding one of the components;

an up/down drive unit (50) for moving up and down the component holding member; and

a support member (40) which is a member for up/down movably supporting the component holding member and supporting the up/down drive unit and which is releasably fixed to the head fitting portion of the head moving unit, and wherein

part of the support member is positioned between a support center (T) of the up/down drive unit by the support member and a support center (S) of the component holding member, where the up/down drive unit and the component holding member are supported by said at least part of the support member.